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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/517,571	10/14/2005	Thomas Vetter	1604BPE-5	2693		
22442	7590	11/17/2009	EXAMINER			
SHERIDAN ROSS PC 1560 BROADWAY SUITE 1200 DENVER, CO 80202				YAN, REN LUO		
ART UNIT		PAPER NUMBER				
2854						
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/517,571	VETTER, THOMAS	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ren L. Yan	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 September 2009.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-9, 12-21 and 29-35 is/are pending in the application.

4a) Of the above claim(s) 2-9 and 29-35 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1 and 12-21 is/are rejected.

7) Claim(s) 13, 16, 19 and 20 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

**DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-24-2009 has been entered.

Claims 13, 16 and 19 are objected to because the recitation of "said conveyer drive means" in each of these claims lacks proper antecedent basis.

Claims 16 and 20 are also objected to because the recitation of "said processing stations" in each claim lacks proper antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/12440 in view of DE 3729911.

The WO 01/12440 teaches the structure of a device for processing the surface of an object 20 as claimed comprising: at least one processing station 18; a conveying unit 14, 16, 48 and 50, by which said objects 20 are transported into desired positions at said processing station; a central controller 62, by which the functions of said conveying unit and of said processing

station are synchronized correlated with transport of said object 20 and wherein said central controller controls each processing station; wherein starting signals are generated in the central controller 62, by which the processing station(s) is capable of starting independently; and wherein by predetermining a duration of transmission of the signals to a processing station, a duration of a function of the processing station is capable of being predefined by the central controller. The Examiner notes that WO 01/12440 teaches on page 3, lines 14-34 that the central controller 62 provides control signals to each servomotor 52, which drives each processing station(print head), to maintain registration for the blanket 46(printing element of the print head 18) at each print position with the articles 20 being printed and the control system 60 establishes and maintains registration independently of the mean article diameter and rotation speed of the mandrels 16. Thus, WO 01/12440 teaches to provide control signals on when to start and stop the servomotor 52 for the processing station(print head) and thus the duration of the function of the processing station is predefined by the central controller 62. See Figs. 1-4 and pages 2 and 3 in WO 01/12440 for details.

However, WO 01/12440 may not specifically teach to synchronize the operations of the conveying unit and the processing station by the use of a clock pulse and the starting signals for the transmission of the clock pulse are generated in the central controller.

DE 3729911 teaches in a processing machine with several stations the conventional use of a central control clock pulse and controlled by a central control to achieve register control among the various processing stations and the transport device. De 3729911 specifically teaches that the control signal is formed by evaluating series of pulses which, on the one hand, come from incremental transmitters on the individual processing stations and, on the other hand, from

a central control clock pulse and/or the transport device which connects the processing stations. The advantage of using the clock pulses as a means to control the various components of the processing machine is the freedom with which equipment changes can be made and, when setting up, furthermore the possibility of introducing register controls. See the abstract in DE 3729911 for example.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the device for processing a surface of an object in WO 01/12440 with central control clock pulse signals generated in the central controller as taught by DE 3729911 in order to predictably achieve the precise synchronization among the operations of the various conveying unit and processing stations and to improve processing registration on the objects being processed even when different diameter objects and mandrels are used in the device.

Claims 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/12440 in view of DE 3729911 as applied to claim 1 above, and further in view of Applicant's Admitted Prior Art(AAPA).

With respect to claim 12, WO 01/12440, as modified by DE 3729911 teaches all that is claimed wherein the conveying unit further comprises a rotary cycle apparatus 14 and an inherently drive means for the rotary cycle apparatus, wherein the objects 20 are arranged in a circumferential orientation on the rotary cycle apparatus 14, and wherein the drive means rotates the objects on the rotary cycle apparatus. WO 01/12440 also teaches the use of incremental transmitters to generate clock pulses. However, the applied prior art does not specifically state that incremental encoders are used. AAPA teaches on page 1, lines 25-29 of the present specification that incremental encoders are conventionally used at the object supports for

detection of the rotary positions of the objects and the signals generated by the incremental encoders are transmitted to the processing stations to control the operation of the processing stations. It would have been obvious to those having ordinary skill in the art at the time of the invention to provide the device of WO 01/12440, as modified by DE 3729911 with the known incremental encoders disposed at the object supports in order to predictably generate the clock pulses indicating the rotary positions of the object so as to enhance the operation of the conveying drive unit for precise position control of the objects being processed.

With respect to claim 13, WO 01/12440, as modified by the applied prior art teaches the drive means that generates rotation about an axis of symmetry of the objects in dependence upon signals of the incremental encoder for position control.

Regarding claims 14 and 15, in so far as structure is defined, the above applied prior art teaches a lead frequency defining the clock pulse is preset by said central controller and such lead frequency is capable of adjusting as recited.

Regarding claim 16, in so far as structure is defined, the applied prior art would have the lead frequency defining the clock pulses transmitted to a computing unit for synchronizing the rotation of said objects generated by the conveyor drive means to the processing station in order to achieve synchronization among the various operational units.

With respect to claim 17, in so far as structure is defined, the computing unit in the applied prior art is stationary.

With respect to claim 18, in so far as structure is defined, the computing unit in the applied prior art is arranged on a rotary cycle apparatus.

Regarding claim 19, the applied prior art teaches the lead frequency and the signals of

said incremental encoders constitute input quantities for the position control of the respective conveyor drive means.

Regarding claim 20, in so far as structure is defined, the lead frequency in the applied prior art is capable of adapting to operating frequencies of said processing station as recited.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/12440 in view of DE 3729911 and AAPA as applied to claims 12-14, 16 and 20 above, and further in view of Thomason (5,207,153).

Regarding claim 21, the applied prior art teaches all that is claimed except that the print heads used are not inkjet printers.

Thomason teaches a printing apparatus using inkjet printers for applying ink to objects. In the printing apparatus, the operation of the object conveying unit and the processing stations are synchronized and the operating frequency of inkjet droplets of the inkjet printing heads 16 is controlled in order for the object conveying unit and the processing stations to work in a synchronous manner. See Fig. 1 and column 2, lines 1-62 in Thomason for example.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the object printing apparatus of WO 01/12440, as modified by DE 3729911 and AAPA with inkjet print heads as taught by Thomason as a simple substitution of one known type of print head for another in order to predictably achieve the same object printing operation as intended.

Applicant's arguments filed on 9-24-2009 have been fully considered but they are not persuasive. Applicant argued that in the present invention, the transmission of the clock pulse is used directly for the processing step at the processing station, while in contrary, WO 01/12440

discloses an indirect control in that multiple signals are used which have to be sent to the processing stations and have to be interpreted at such processing stations as to a start and stop as well as the duration of the processing at each processing station. This argument is not persuasive because it seems to be directed to a single reference rejection under 35 USC 102. In doing so, applicant's argument has totally ignored the valid teachings offered by DE 3729911 and applied in the 35 USC 103 rejection set forth in the previous Office action. As discussed above in the forgoing rejections, DE 3729911 does teach to generate starting signals for the transmission of clock pulses in the central controller so as to control the processing station the same way as it does in the present invention as claimed. Accordingly, the applied combination of WO 01/12440 and DE 3729911 fully meets the limitations as required in claim 1.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ren L Yan/  
Primary Examiner, Art Unit 2854  
November 12, 2009